

HAMPTON RIVER AND HARBOR

NEW HAMPSHIRE

**SURVEY
(REVIEW OF REPORTS)**

**U. S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
WALTHAM, MASS.**

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
424 Trapelo Road
Waltham, Mass. 02154

NEDED-R

26 March 1964

SUBJECT: Survey (Review of Reports) on Hampton River and Harbor, New Hampshire

TO: Chief of Engineers
ATTN: ENGCW-PD
Washington, D. C.

1. Syllabus. The Division Engineer finds that improvement of navigation facilities for recreational and commercial fishing craft in Hampton Harbor is warranted and can be accomplished under authority of Section 107 of the 1960 River and Harbor Act. On the basis of a Detailed Project Report, dated 30 July 1963, the Chief of Engineers approved the project plan of improvement for accomplishment. Formal adoption as a Federal project was made on 18 February 1964. No further improvement, in addition to that so authorized, is warranted at this time.

2. Authority. This report is submitted in compliance with a resolution adopted ~~23~~¹⁹ July 1956 by the Committee on Public Works of the United States House of Representatives, which reads as follows:

"WHEREAS, the Chief of Engineers has completed a preliminary examination pursuant to a resolution adopted by the Committee on Public Works, House of Representatives, U.S., on June 2, 1949, requesting a review of reports on Hampton River and Harbor, New Hampshire, submitted in House Document No. 247, 58th Congress, 2nd Session, and subsequent reports with a view to determining whether the provision of anchorage basins and channel and other improvements for navigation is advisable at this time; and

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WHEREAS, the Chief of Engineers, after a favorable finding of the Board of Engineers for Rivers and Harbors, has recommended by letter, dated July 11, 1956, directed to the Chairman of the Committee on Public Works, that a survey be made;

NOW, THEREFORE, Be it resolved by the Committee on Public Works, House of Representatives, U. S., that the Board of Engineers for Rivers and Harbors be and hereby is, authorized to proceed with the preparation of a survey report thereon."

3. Existing Project and Prior Reports. There is no existing Federal project for navigation at Hampton Harbor. An existing Federal project for the control of beach erosion at Hampton Beach was adopted 3 September 1954 and modified by the River and Harbor Act of 23 October 1962. There have been four previous reports concerning navigation, all of preliminary examination scope. Three reports were unfavorable to further study. The fourth and most recent report made in 1956 was favorable to further study and served as a basis for the authority for this review. Four studies of beach erosion problems at Hampton have been made by the Corps of Engineers in cooperation with the State of New Hampshire which resulted in Federal participation projects for the protection and maintenance of Hampton Beach.

4. Purpose and Description. This study was authorized to determine the engineering feasibility and economic justification for Federal participation in the improvement of navigation conditions at the entrance to and within Hampton Harbor for commercial fishing vessels and recreational craft.

5. Hampton Harbor is located 13 miles south of Portsmouth Harbor, New Hampshire. It is situated at the mouth of the Hampton River and is mostly exposed mud flats at low tide with narrow, winding channels. In 1934, the State of New Hampshire constructed two jetties at the harbor entrance to stabilize the migrating inlet attributed to the strong tidal currents. The most recent soundings indicate a 5-foot controlling depth in the entrance channel.

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6. The Towns of Hampton, Hampton Falls, and Seabrook are immediately tributary to Hampton Harbor. The residents of Hampton and Seabrook depend largely on expenditures of summer recreational visitors for their income. The permanent population of these two towns was 7,588 in 1960. The summer population is estimated at 55,000 on weekdays and 85-100,000 on weekends. Harbor facilities include two State public landings and a 60-boat marina.

7. Desired Improvements. At a public hearing held at Hampton Beach, New Hampshire on 29 November 1955, local interests requested (a) dredging in the harbor entrance and within the harbor to provide channel and anchorage areas of 10-foot depth, and (b) raising and extending the existing State jetties to afford greater protection in the entrance channel and harbor.

8. Plan of Improvement and Project Formulation. The difficulties attending navigation result from (a) the shoal, shifting entrance channel and breakers which make navigation hazardous, and (b) shoaling within the harbor which has reduced the available anchorage.

9. Consideration was given to the desire for dredging within the harbor for additional anchorage. It was found that prospective navigation by itself would not justify the cost of maintaining the harbor anchorage, which is subject to a high rate of shoaling, and improving the harbor entrance. Also, it was considered that if the State continued its past practice of dredging within the harbor to obtain economical beach fill for Hampton Beach (estimated to require 40,000 cubic yards annually), adequate navigation channels and anchorage in the harbor can be maintained at no cost when the beach fill required in conjunction with the Federal beach erosion project is obtained. Therefore, a Federal improvement inside the harbor is considered not necessary at this time.

10. However, improvement of the entrance channel is warranted. Studies were made of the direction and extent of littoral drift, inlet tidal currents, predominant direction and intensity of waves, and the hydrographic conditions in the vicinity of the harbor entrance. Based upon these studies and an investigation of the number, type and size of craft expected to use the waterway, a plan of improvement was developed to provide for:

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a. Extending the existing north jetty southeasterly 1,000 feet with a 200-foot spur normal to the jetty axis at its outer end, all to an elevation of 12 feet above mean low water.

b. Raising the outer 300 feet of the existing State south jetty to elevation 16 and constructing a 180-foot spur to high ground.

c. Dredge to provide a channel 8 feet deep and 150 feet wide across the entrance bar.

11. The estimated first cost of construction is \$325,000, of which the Federal share would be \$192,000 (59 percent) and the non-Federal share would be \$133,000. Other costs to the United States would include \$1,000 for navigation aids and \$2,200 for future annual maintenance. The project benefit-cost ratio is 1.1 to 1.0.

12. Coordination and Local Cooperation. All Federal, State and local agencies having an interest in the improvement have been consulted concerning effects of the proposed improvements on their activities. The United States Fish and Wildlife Service reported that significant benefits would accrue to the sport fishery through repair and extension of the jetties, if a safe access and walking surface were provided. The benefits based on project effect on navigation are sufficient to justify the improvement. If the benefits for jetty sport fishing are included, the benefit-cost ratio would be 2.7 to 1.0.

13. The requirements of local cooperation are as follows:

a. Make cash contribution of 41 percent of construction cost, and assume all costs in excess of the \$200,000 Corps of Engineers limitation.

b. Furnish lands, easements, and rights-of-way including suitably diked spoil areas needed for construction and maintenance of the project.

c. Hold and save the United States free from damages which may result from construction and maintenance of the project.

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d. Maintain, without cost to the United States, two public landings with adequate access channels and berths 6 feet deep, open to all on equal terms.

e. Maintain at least 22 acres of anchorage and access channels 6 feet deep in the harbor, extending from the Route 1A highway bridge. This maintenance to be without cost to the United States except for any Federal share of costs involved in procuring sand for nourishment of Hampton Beach in accordance with the authorized project therefor.

f. Provide such beach nourishment at Seabrook Beach as may be needed to offset a possible reduction in supply because of inlet improvement.

g. Maintain the existing State jetties at Hampton Inlet without cost to the United States.

14. Conclusions. Local interests have reviewed and approved the project plan, as shown on the map accompanying this report, and have provided reasonable assurance that the requirements of local cooperation would be met. Accordingly, the Chief of Engineers, by 1st Indorsement dated 19 December 1963, authorized accomplishment of the project plan of improvement under authority of Section 107 of the 1960 River and Harbor Act. Formal adoption of the Hampton Harbor improvement as a Federal project was made on 18 February 1964.

15. Recommendation. The Division Engineer recommends that no further improvement of the Federal project for Hampton Harbor, New Hampshire, be made at this time.

2 Incls.

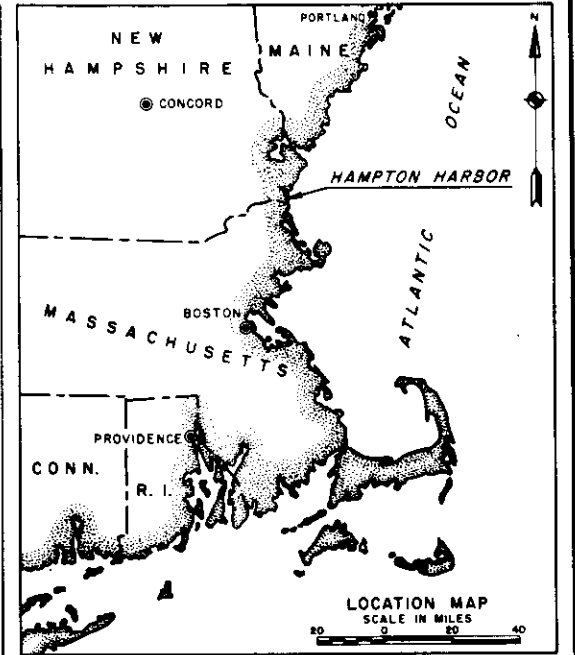
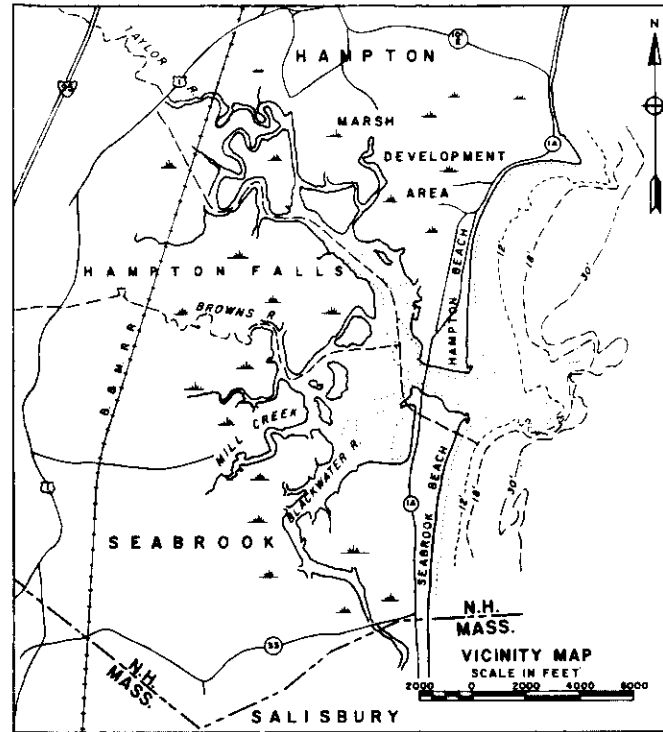
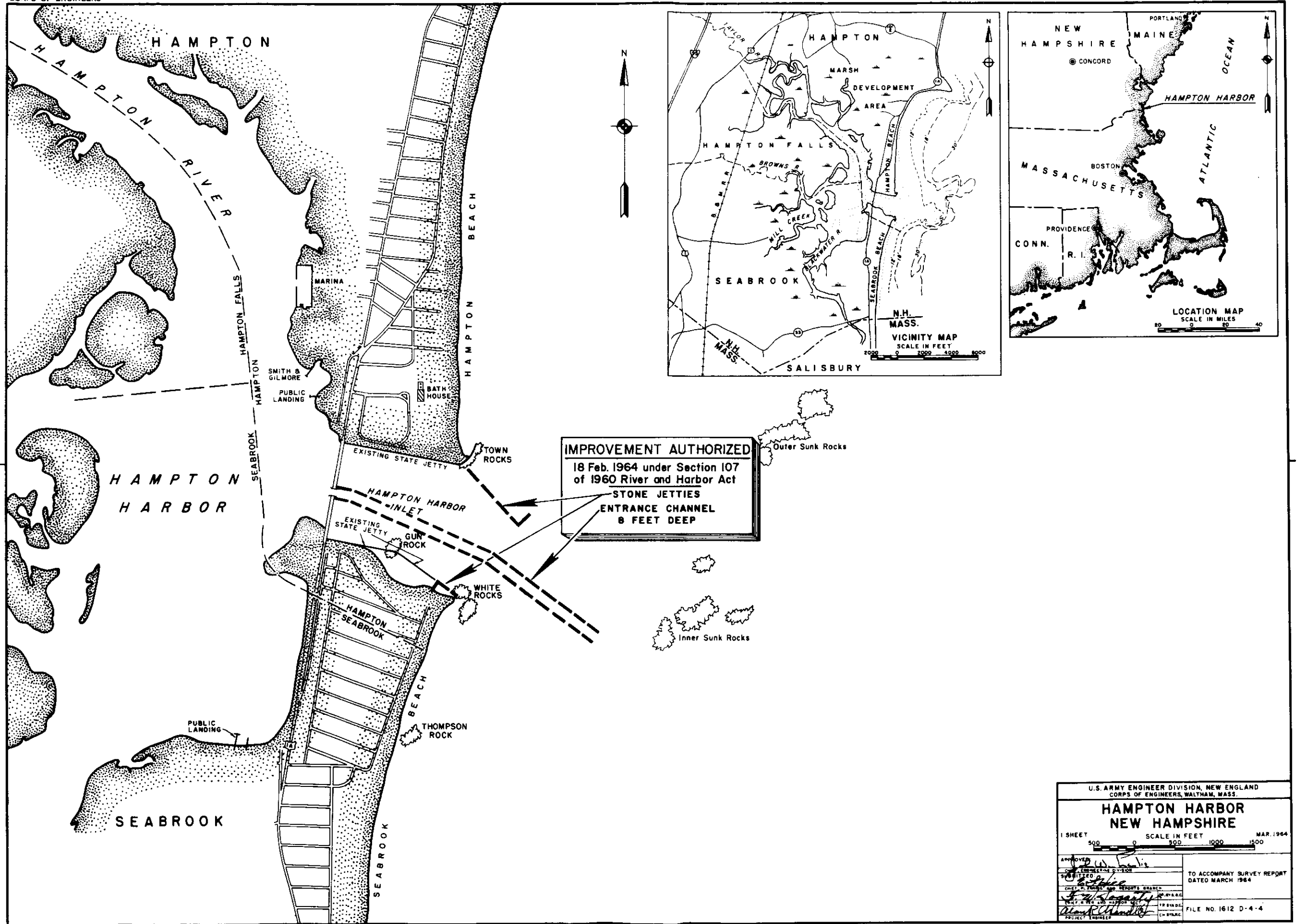
1. Map

2. Sen. Res. 148

P. C. HYZER

Brigadier General, USA

Division Engineer



U.S. ARMY ENGINEER DIVISION, NEW ENGLAND CORPS OF ENGINEERS, WALTHAM, MASS.	
HAMPTON HARBOR NEW HAMPSHIRE	
1 SHEET	SCALE IN FEET 500 1000 1500
MAR. 1964	
APPROVED <i>[Signature]</i>	TO ACCOMPANY SURVEY REPORT DATED MARCH 1964
SUBMITTED <i>[Signature]</i>	FILE NO. 1612 D-4-4
CHIEF OF ENGINEERS <i>[Signature]</i>	PROJECT ENGINEER <i>[Signature]</i>

HAMPTON RIVER AND HARBOR, NEW HAMPSHIRE
Information Called for by Senate Resolution 148
85th Congress, Adopted 28 January 1958

1. This study considered the need and justification for providing small boat navigation improvements at Hampton Harbor, New Hampshire, located about 45 miles north of Boston, Massachusetts.

2. As a result of the study, the Chief of Engineers under authority of Section 107 of the 1960 River and Harbor Act, approved for accomplishment a navigation improvement for Hampton Harbor. The improvement was formally adopted as a Federal project on 18 February 1964. The project plan of improvement involves the entrance channel and would provide for (a) extending the north jetty 1,000 feet with a 200-foot spur at the tip, (b) raising the outer 300 feet of the south jetty and constructing a 180-foot spur to high ground, and (c) dredging to provide a channel 8 feet deep and 150 feet wide across the entrance bar. The estimated first cost of construction is \$325,000, of which local interests would be required to make a cash contribution of 41 percent, or presently estimated at \$133,000. The net cost to the United States is \$192,000 for construction, \$1,000 for additional aids to navigation, and future annual maintenance costs of \$2,200 for jetties, channel and navigation aids.

3. Consideration was given to alternatives to the above authorized project for the entrance channel to the extent of determining the most effective and economical method of providing a safe, adequate and reasonably stabilized channel. Based on studies made of littoral drift, inlet tidal currents, storm waves and hydrography, the improvement authorized was selected as a logical development of the harbor in keeping with specific local desires and current and anticipated boat use of the harbor. Local interests have reviewed and approved the plan of improvement and have provided reasonable assurance that the requirements of local cooperation would be met.